Tittabawassee River, Saginaw River & Bay Site

Update on the Work

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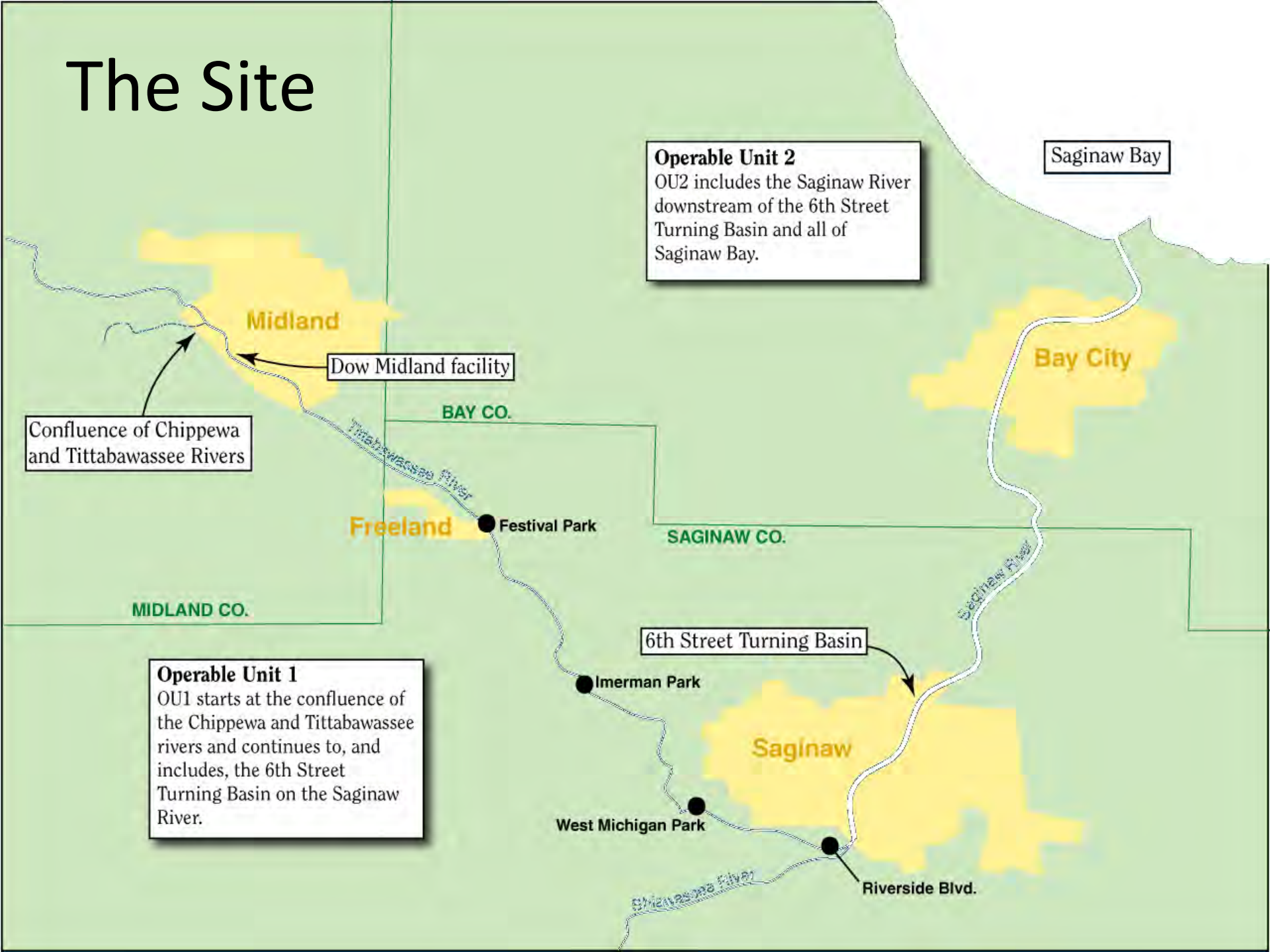
Settlement Agreement

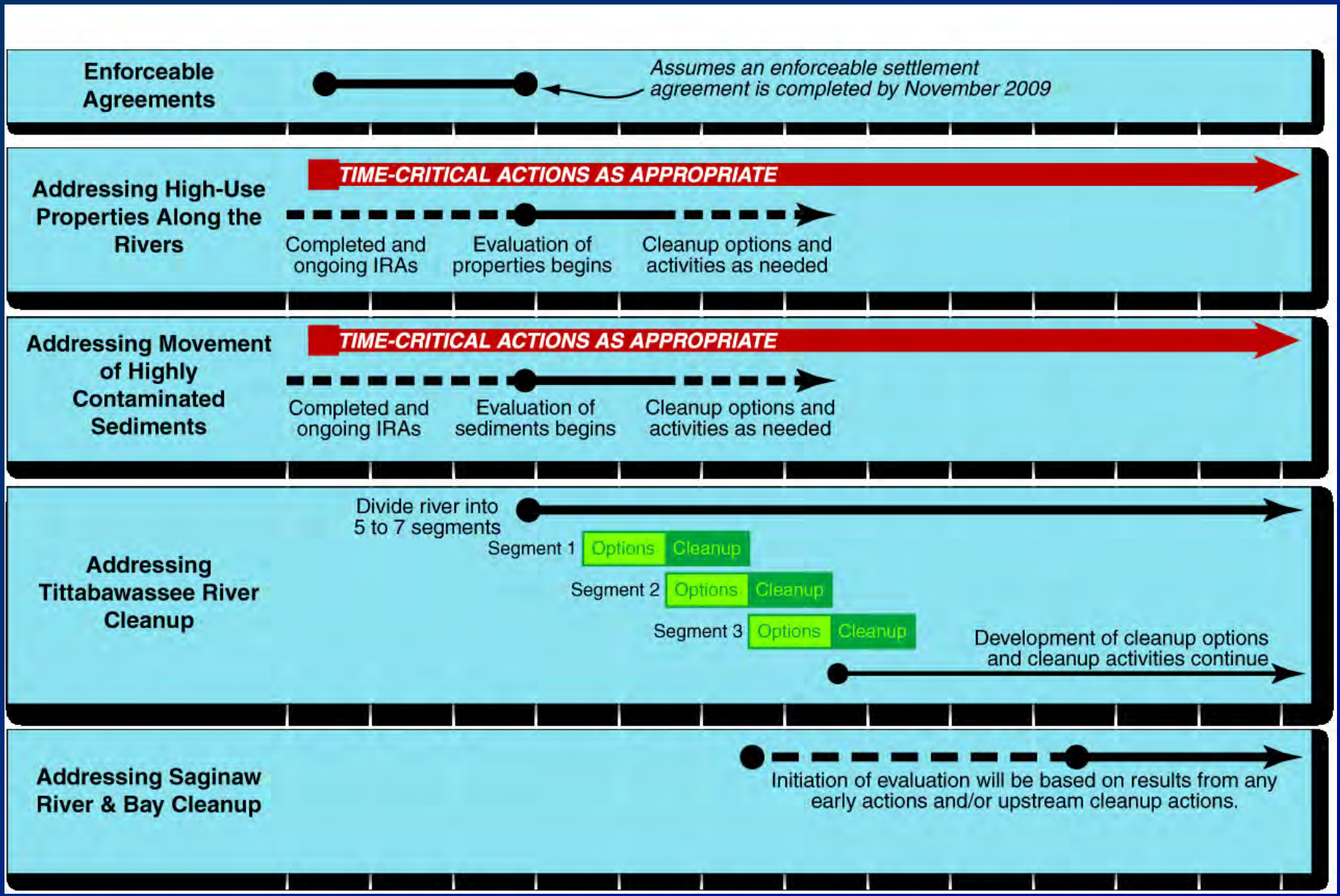
- January 21, 2010 – Settlement Agreement between EPA, DNRE, and Dow in effect
- Requires Dow to:
  - Perform investigations
  - Develop cleanup options
  - Design cleanup options – selected by EPA, in consultation with DNRE
- Overarching goal – to achieve protective, comprehensive cleanup of the site
- Allows Dow to meet some RCRA License obligations through the Superfund work

The Site

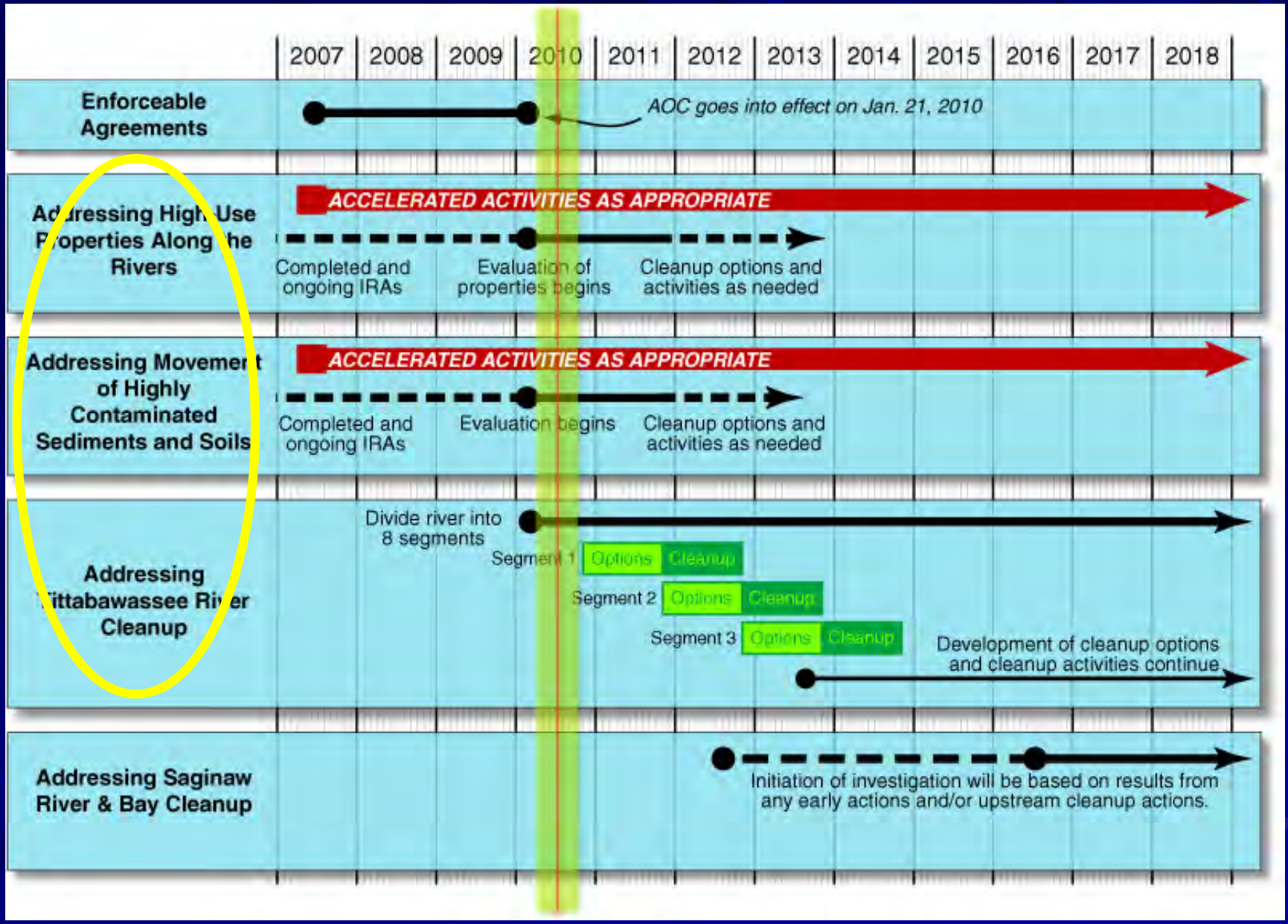

Operable Unit 2
OU2 includes the Saginaw River downstream of the 6th Street Turning Basin and all of Saginaw Bay.
Saginaw Bay
Midland
Dow Midland facility
Confluence of Chippewa and Tittabawassee Rivers
BAY CO.
Tittabawassee River
Freeland
Festival Park
SAGINAW CO.
Bay City
Saginaw River
MIDLAND CO.
6th Street Turning Basin
Operable Unit 1
OU1 starts at the confluence of the Chippewa and Tittabawassee rivers and continues to, and includes, the 6th Street Turning Basin on the Saginaw River.
Imerman Park
Saginaw
West Michigan Park
Riverside Blvd.
Shiawassee River

Major Work

- Three critical activities:
  - Exposure control at high-use properties
  - Controlling major contaminant movement
  - Segment-by-segment comprehensive cleanup
- Each of these activities will be phased
- Work on each will occur concurrently



EPA's Projected Timeline – June 2009



EPA's Projected Timeline – July 2010

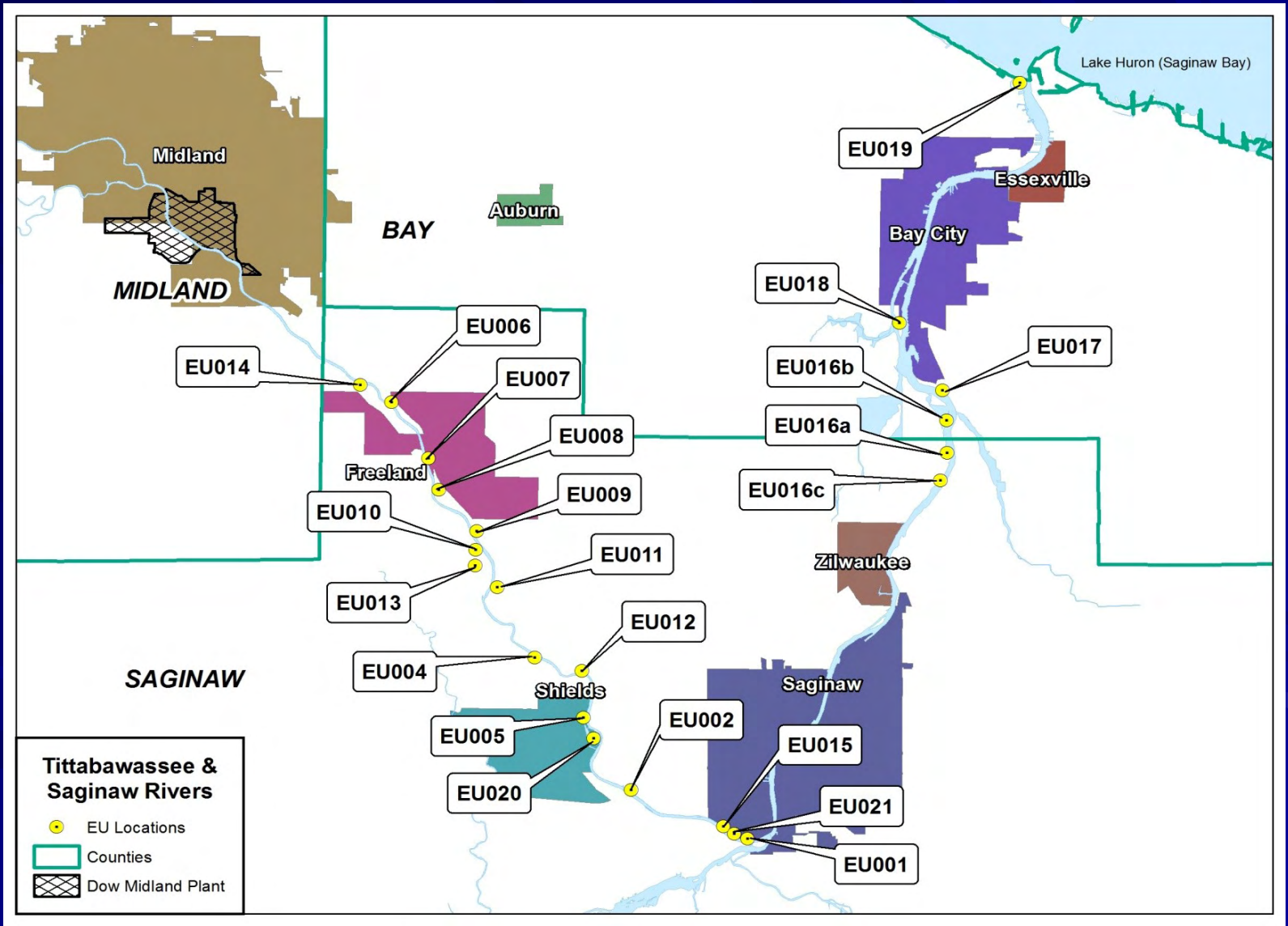
High Use Properties
Key Objectives

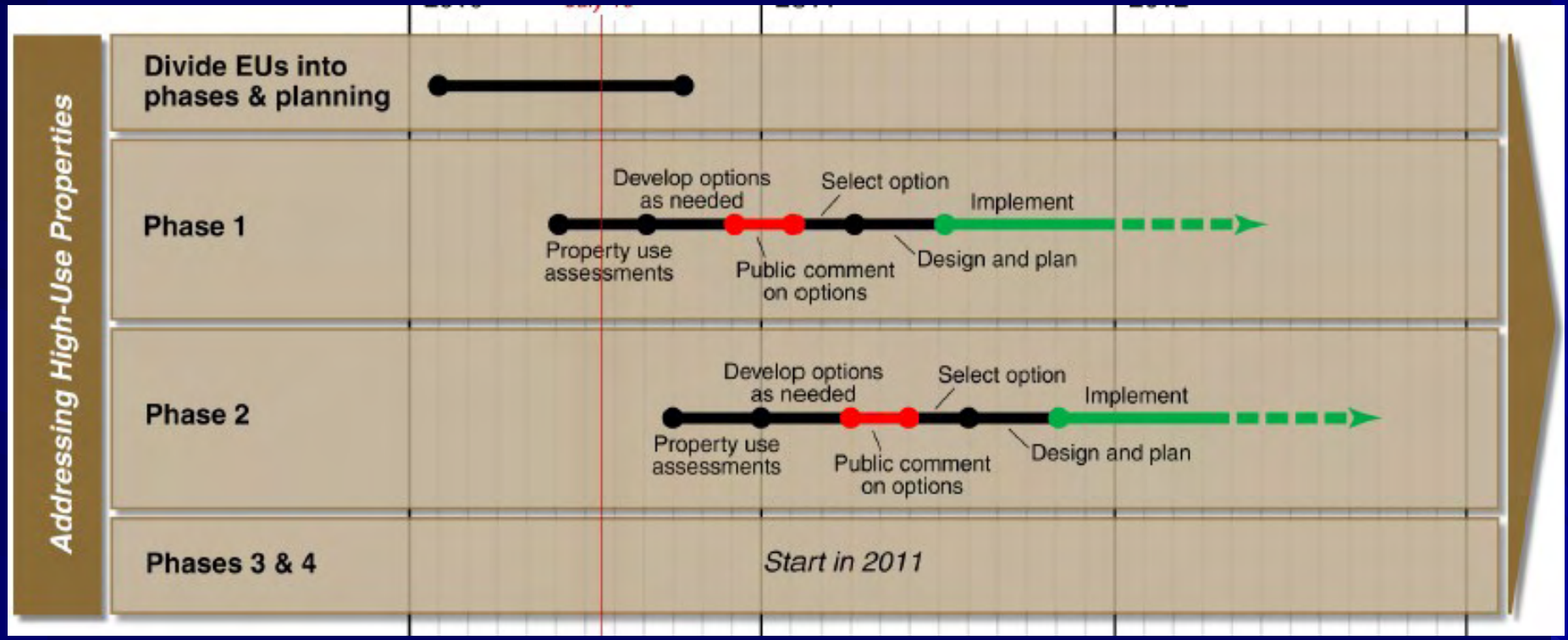
- Develop options to address potential acute or near-term exposure risks
  - Focus on areas of high human use with high surface contamination
  - Focus on exposure control
  - Additional actions considered as part of segment-specific evaluations
- Important to note → ongoing flood response and other RCRA interim response actions will continue

Exposure Units (EUs)

- EPA and MDEQ identified areas called “Exposure Units” or EUs in 2008
- 18 EUs will be assessed
  - 14 EUs along the Tittabawassee River
  - 4 EUs along the Saginaw River
- Approximately 260 property parcels will be assessed
- New areas can be identified, as needed

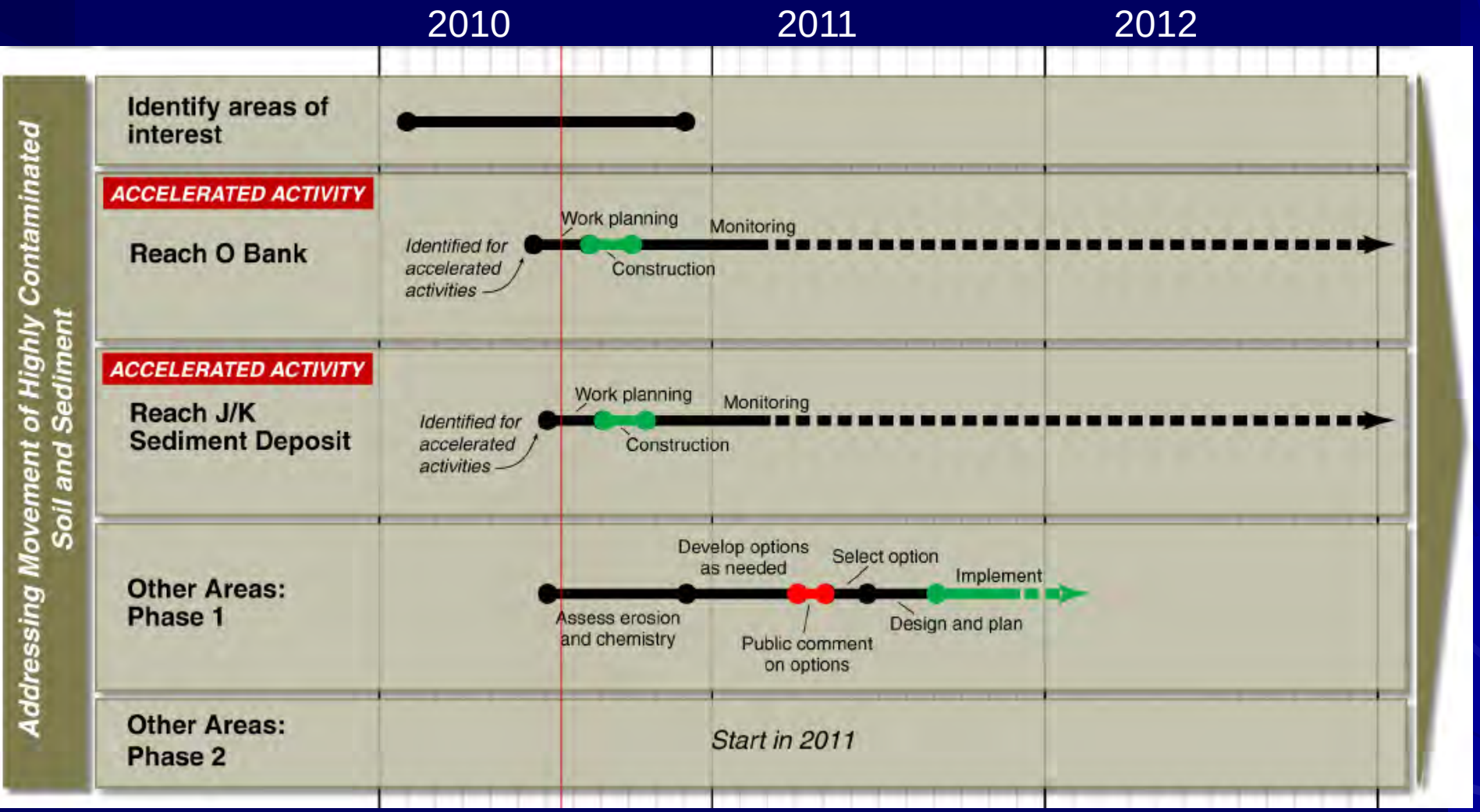
General Location of Exposure Units



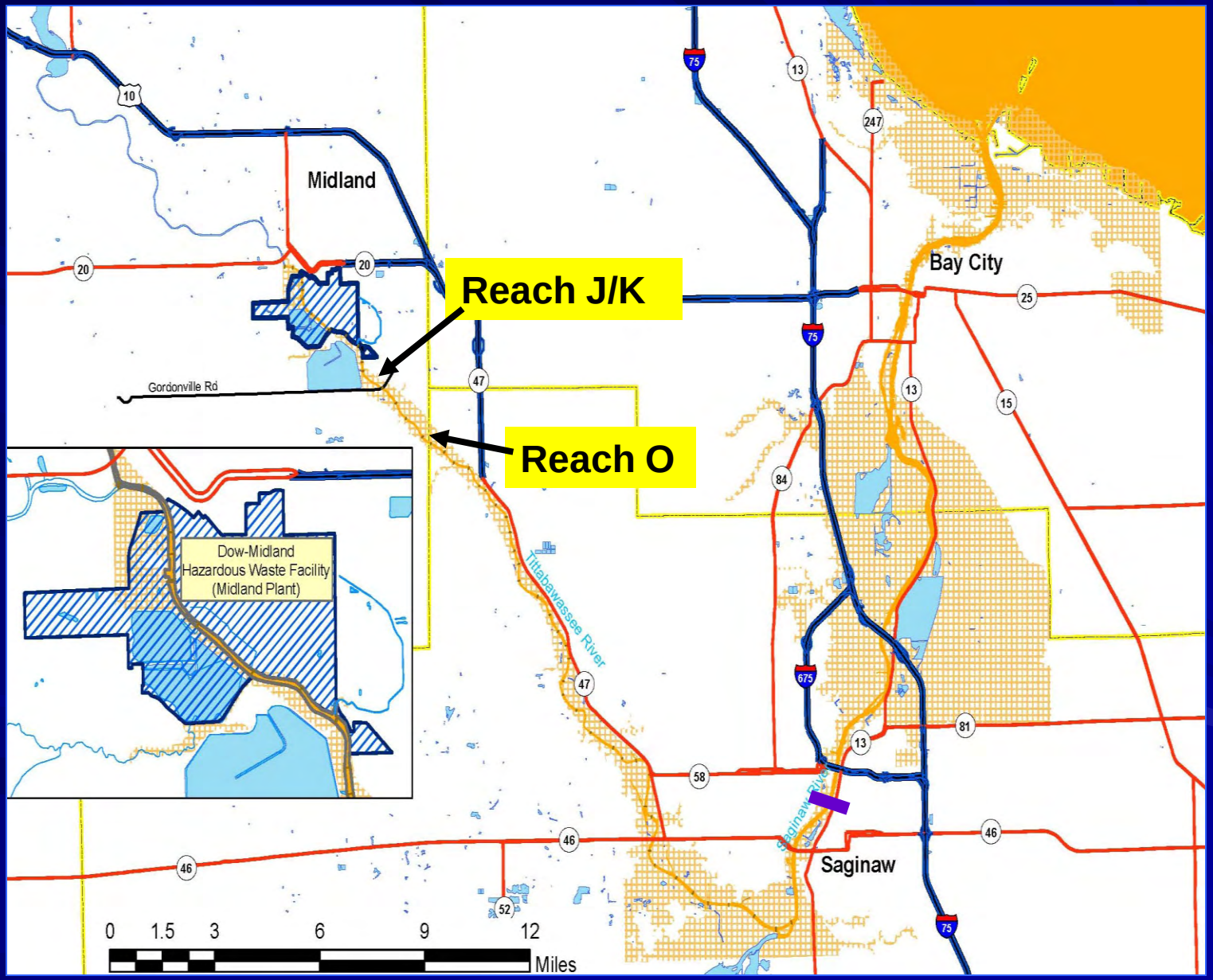

2010
2011
2012
Addressing High-Use Properties
Divide EUs into phases & planning
Phase 1
Develop options as needed
Select option
Implement
Property use assessments
Public comment on options
Design and plan
Phase 2
Develop options as needed
Select option
Implement
Property use assessments
Public comment on options
Design and plan
Phases 3 & 4
Start in 2011

Contaminant Movement Key Objectives

- Develop options to address potential acute or near-term contaminant transport risks
  - Focus on highly eroding areas that are highly contaminated
  - Focus on stabilizing river banks and channel deposits
  - Additional actions considered as part of segment-specific evaluations
- New areas can be identified, as needed


2010
2011
2012
Addressing Movement of Highly Contaminated Soil and Sediment
Identify areas of interest
ACCELERATED ACTIVITY
Reach O Bank
Identified for accelerated activities
Work planning
Construction
Monitoring
ACCELERATED ACTIVITY
Reach J/K Sediment Deposit
Identified for accelerated activities
Work planning
Construction
Monitoring
Other Areas: Phase 1
Assess erosion and chemistry
Develop options as needed
Public comment on options
Select option
Design and plan
Implement
Other Areas: Phase 2
Start in 2011

Location – Accelerated Activities and Pilot Work in 2010



Accelerated Activities – Reach O Bank Stabilization

- Intended to stabilize a contaminated eroding bank
- Reach O has higher levels of dioxin in the historic levee deposit
- Planning under way
- Construction in 2010

Accelerated Activities – Reach J/K Accretion Capping Pilot

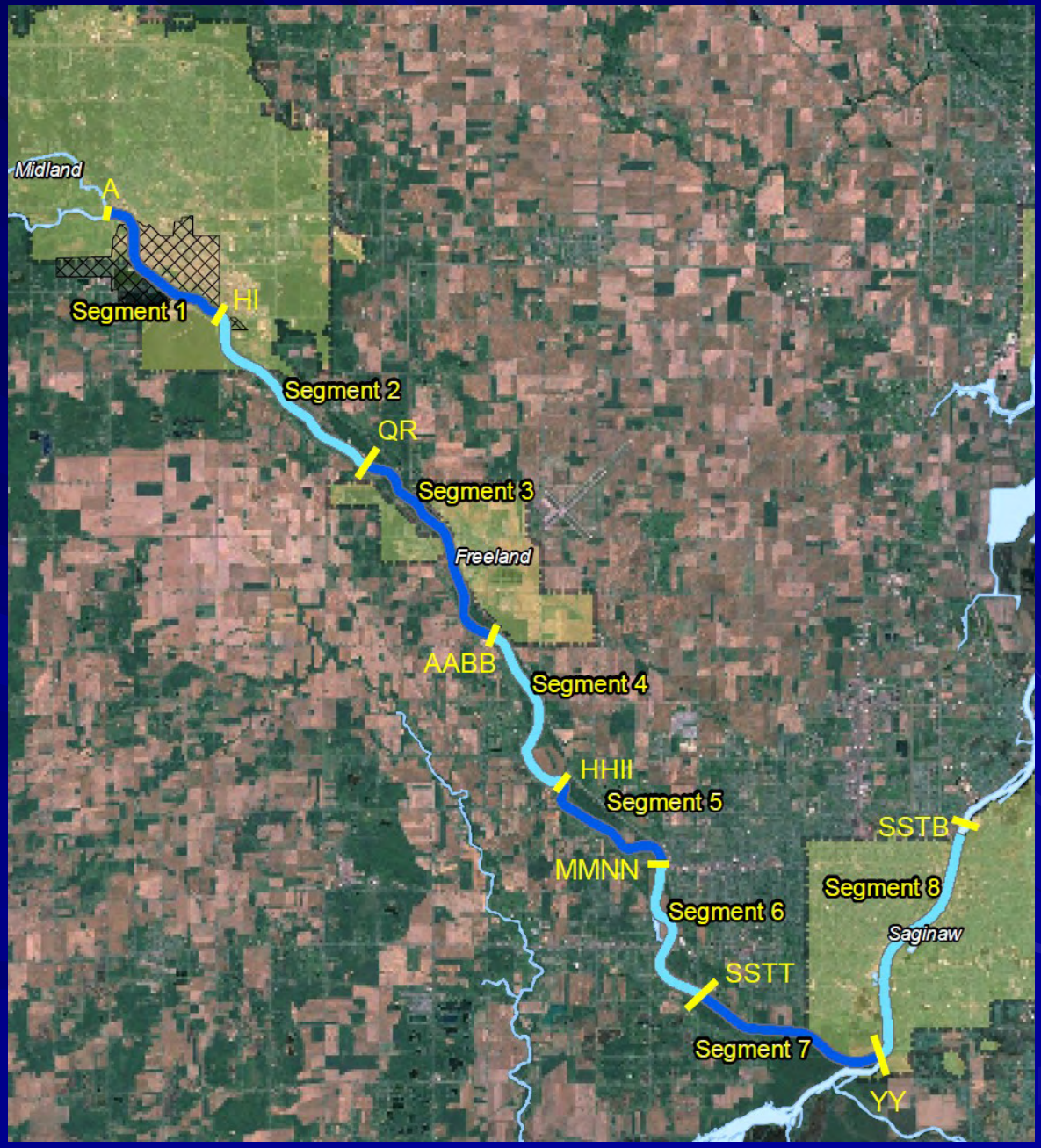
- Intended to stabilize clean material at the surface of a sediment deposit
- Construction in 2010

Segment-by-Segment Approach

- Divide OU 1 into manageable segments
- Upstream to downstream approach
- Segment-Specific Response Proposals
  - Build on existing work
  - Fill data gaps as needed
  - Response actions may be performance-based

Dividing OU 1

- Includes ~ 24 miles of the Tittabawassee River and ~ 5 miles of the Saginaw River
- Eight segments – around 3 – 5 miles each
- Timing/schedule are important considerations

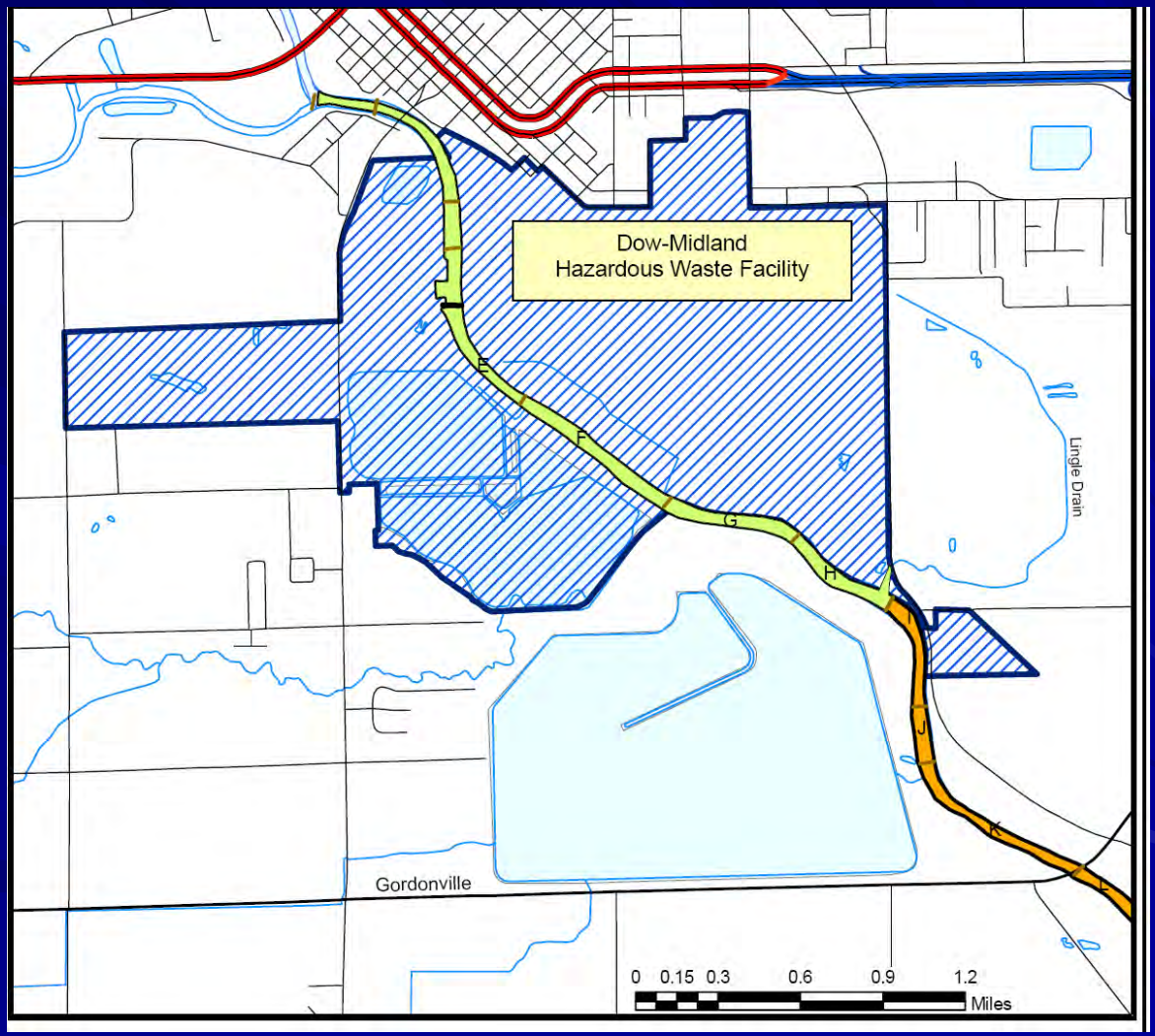


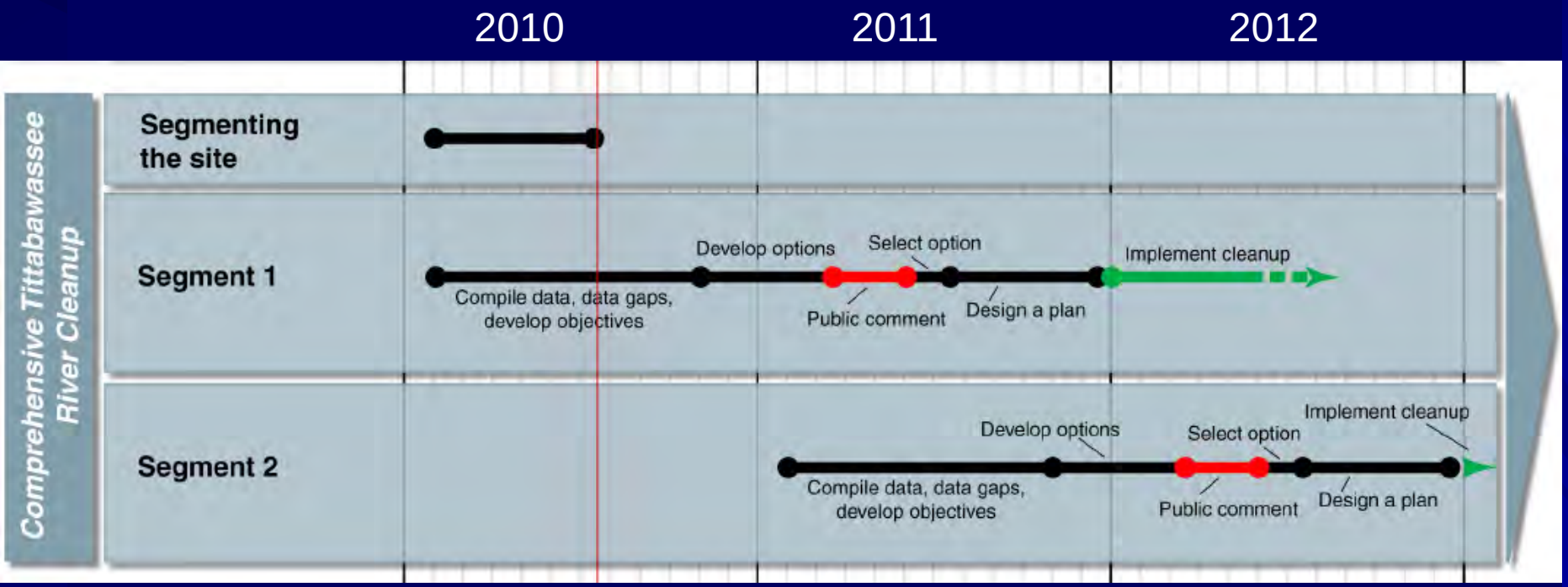
Segment-by-Segment Approach Key Objectives

- Comprehensive cleanup options for the entire segment
  - Floodplains
  - Banks
  - Sediments
- Overarching goals:
  - Reduce movement of contaminants that may contribute to unacceptable risks.
  - Reduce unacceptable human health and ecological risks.

Tittabawassee River – Segment 1

- Segment 1 includes the three miles next to the Midland plant
- Unique conditions in this segment




2010
2011
2012
Comprehensive Tittabawassee River Cleanup
Segmenting the site
Segment 1
Develop options
Select option
Implement cleanup
Compile data, data gaps, develop objectives
Public comment
Design a plan
Segment 2
Develop options
Select option
Implement cleanup
Compile data, data gaps, develop objectives
Public comment
Design a plan

END